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(57) Abstract: A phosphonium compound embedded in a matrix substrate wherein the phosphonium compound is selected from a group consisting of tris (hydroxyorgano) phosphine (THP), a THP⁺ salt (tetrakis (hydroxyorgano) phosphonium salt) or a condensate of THP and a nitrogen containing compound. The compound may be used to reduce the numbers of micro organisms in industrial systems and may also be used to reduce iron carbonate or iron, lead and zinc scale deposits.

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